

## CCE 4127 - Microcontrollers Course

### List of required Components

No	Item	Description	Quantity
1	MicroController	PIC16F887 - PIC16F877 - Atmega	2
2	LED	Output Ports experiment	8
3	Resistors (330 $\Omega$ )	Current Limit for LED	8
4	Push Button Switch	Input Ports experiment	4
5	Capacitor 1 $\mu$ F	Debouncing experiment	4
6	Resistors (1 k $\Omega$ )	Pull-up / Pull-down resistors	4
7	Seven Segments	Common Kathode - MicroController Interfaces	4
8	KeyPad	4x4 Matrix - MicroController Interfaces	1
9	LCD 2x16	characters display - Microcontroller Interfaces	1
10	2N2222 Transistor	Micro controller Interfaces	4
11	Temperature Sensor	ADC experiment	1
12	Potentiometer	(10 k $\Omega$ ) for ADC experiment	2
13	photo transistor	interrupt experiment	1
14	H-Bridge	L293 for Motor drive	1
15	Bread Board	for Connecting Components (Large)	1
16	Connectors	Get much more Connectors	—
17	Diodes	for H-Bridge	4
18	Crystal Oscillator	8-MHz + 2 0.1 $\mu$ F ceramic Capacitors	1+2

- These Components are used

in the Lab of the Course during Semester

- All teams are Supposed to get these Components